EGS ABSTRACT

CORONAL TRANSIENTS AND SPACE WEATHER PREDICTION MISSIONS

P. C. Liewer, H. M. Harris, M. Neugebauer, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109, USA

Large expulsions of coronal material called coronal transients or coronal mass ejections have a large influence on the Earth's geomagnetic activity. Recently, there has been considerable discussion of developing the ability to be able to predict when large CMEs will impact the Earth's magnetosphere. In this talk, we will present the results of a study [1] of eight possible missions for monitoring and detecting coronal mass ejections prior to their arrival at Earth. The payloads, estimated costs, orbits, new technology and scenarios for these missions will be presented along with a discussion of the science return. Some of the missions rely on remote sensing of Earth-directed CMEs via coronagraphs which view the Sun at 60-90 degrees from the Earth-Sun line and some rely on in situ detection of CMEs using spacecraft near the Earth-Sun line. Several are multi-spacecraft missions.

[1] Coronal Transients and Space Weather Prediction Missions, (H. M. Harris, ed.), JPL Report D12611, April 1995.

1. Paulett C. Liewer, Jet Propulsion Laboratory, MS 169-506, Pasadena, CA 91109, USA
e-mail: pauly@spaceport.jpl.nasa.gov
phone: 818-354-6538
FAX: 818-354-8895

2. Future Prospects in Solar and Heliospheric Observations
(Invited Talk)

3. Dr. Volker Bothmer, ESTEC

4.

5. oral

Mail to Convener and EGS Office, Postfach 49, Max Planck-Str. 1, 37189 Katlenburg-Lindau, Germany